

# **A SOA CASE STUDY IN THE TRENCHES**

## **JAFE: A JOINT ARCHITECTURE FEDERATION ENVIRONMENT**

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# J89 MISSION

## MISSION

- ◉ The Joint Integrated Architectures and Systems Engineering Division (J89) mission is to support architecture development, analysis, capability assessments and portfolio management to enable speed, agility and well-informed decision making through rapid availability and re-use of architectures. (Gen. Kennedy, USJFCOM J8, April 2010)

## VISION

- ◉ "An operations officer is in the field and has been assigned a new battalion to their forces. The officer calls up the appropriate ***federated data***, modifies the view ***dynamically*** with the new resources and dynamically ***re-builds the view***, ***re-tasks*** the resources, ***simulates*** it and ***generates*** all the appropriate operations orders ***on the fly***."

"That is my vision." (SES Martin Westphal, USJFCOM J8F, March 2010)

# VISION ENABLERS

- ◉ **Federation of Architecture Data (Data Sharing)**
- ◉ **Way to Expose Data(Visibility)**
- ◉ **Access to Validated Architecture Products (Discoverability)**
- ◉ **Connection and Traceability (common lexicons)**
- ◉ **Operational Context (Understandability)**
  - Joint Mission Threads
- ◉ **Virtual Development Environment**
- ◉ **Teaming**



# **JAFE**

## **The Joint Architecture Federation Environment Project**

**2008 - Present**



# WHY FEDERATE?

Necessary to solve  
joint warfighting  
issues

Information  
visible, accessible,  
reusable, &  
understandable

Re-use will reduce  
time of delivery

Standardization of  
processes

*Architecture Federation is NOT about building better Architects.  
Purpose is to support decision makers by enabling the speed  
and agility of well-informed decision making through rapid  
availability and re-use of architectures*

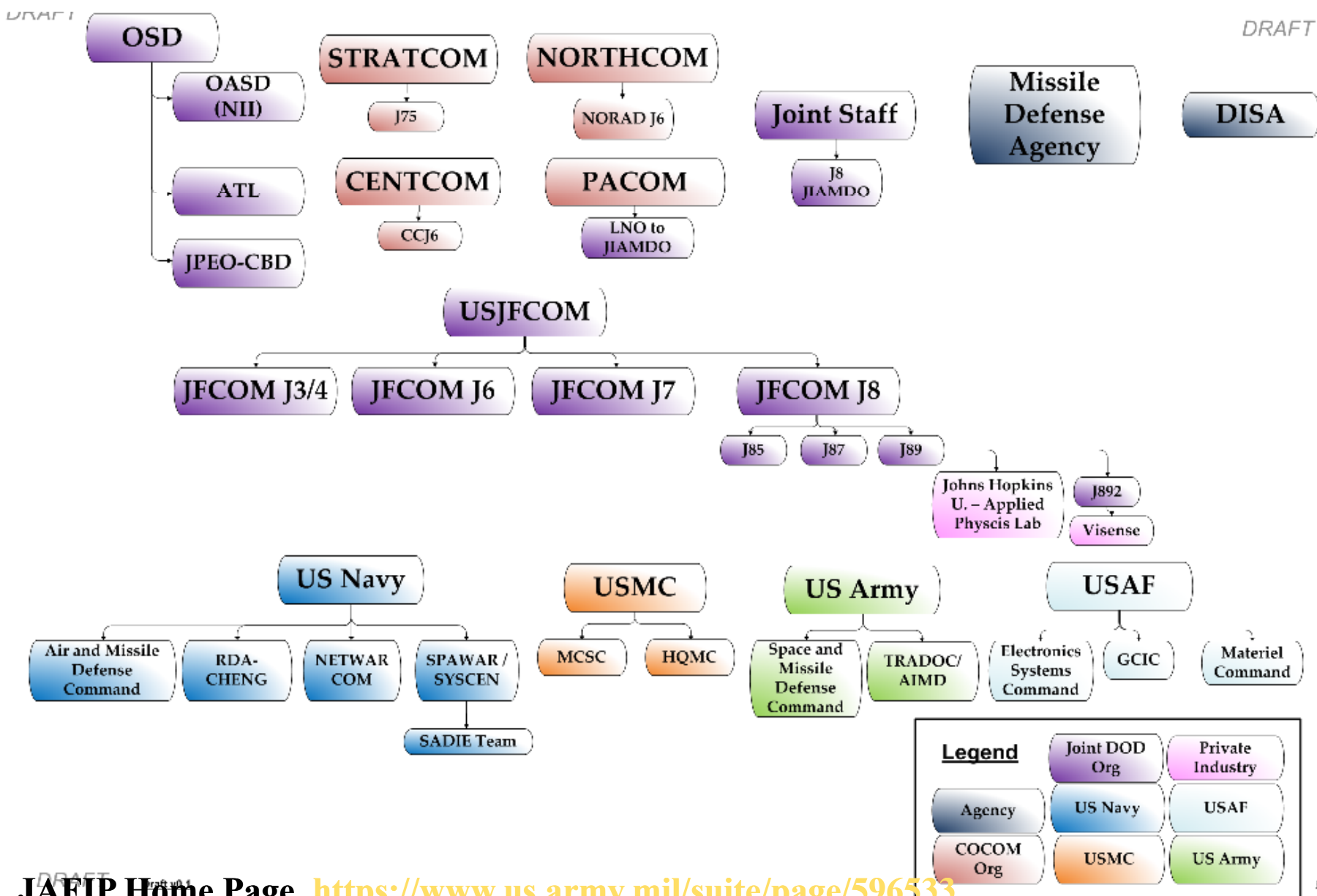
# PROJECT GOVERNANCE

# JAIWG- JOINT ARCHITECTURE FEDERATION AND INTEGRATION PROJECT

## ◎ Goals:

- Establish the capability to discover authoritative data in federated Joint and/or Service repositories
- Leverage partnerships with mature DoD architecture development efforts in order to maximize use of existing resources and re-use of architecture data
- Provide the *framework, standards* and *governance* for a federated, joint, architecture information sharing and development environment

# FEDERATION PARTNERS



# JAFE PROJECT STRATEGY

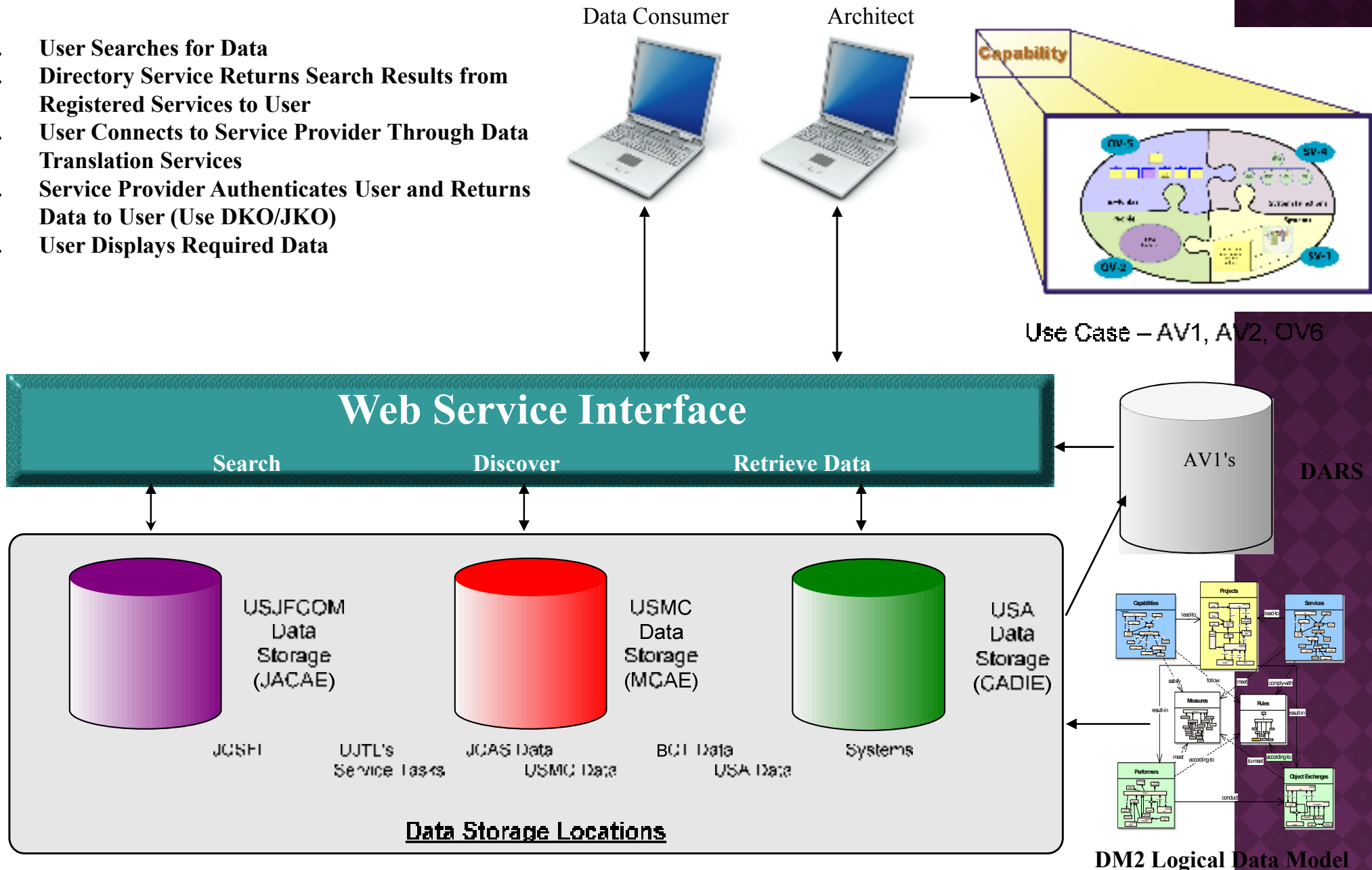
- ◉ Top Down Systems Engineering Approach
- ◉ Virtual Teaming
  - Geographically and organizationally dispersed members
- ◉ Three Part Integration
- ◉ Application Enterprise Construction
- ◉ Developing Requirements, DoDAF Views, Business Process and System Models
- ◉ Scope of Work - WBS and task breakdown governance
- ◉ Integration Consideration - exchange and interoperate with many sources

# **JAFE:**

## **The Joint Architecture Federation Environment**

# ARCHITECTURE FEDERATION (THE OV-1)

1. User Searches for Data
2. Directory Service Returns Search Results from Registered Services to User
3. User Connects to Service Provider Through Data Translation Services
4. Service Provider Authenticates User and Returns Data to User (Use DKO/JKO)
5. User Displays Required Data

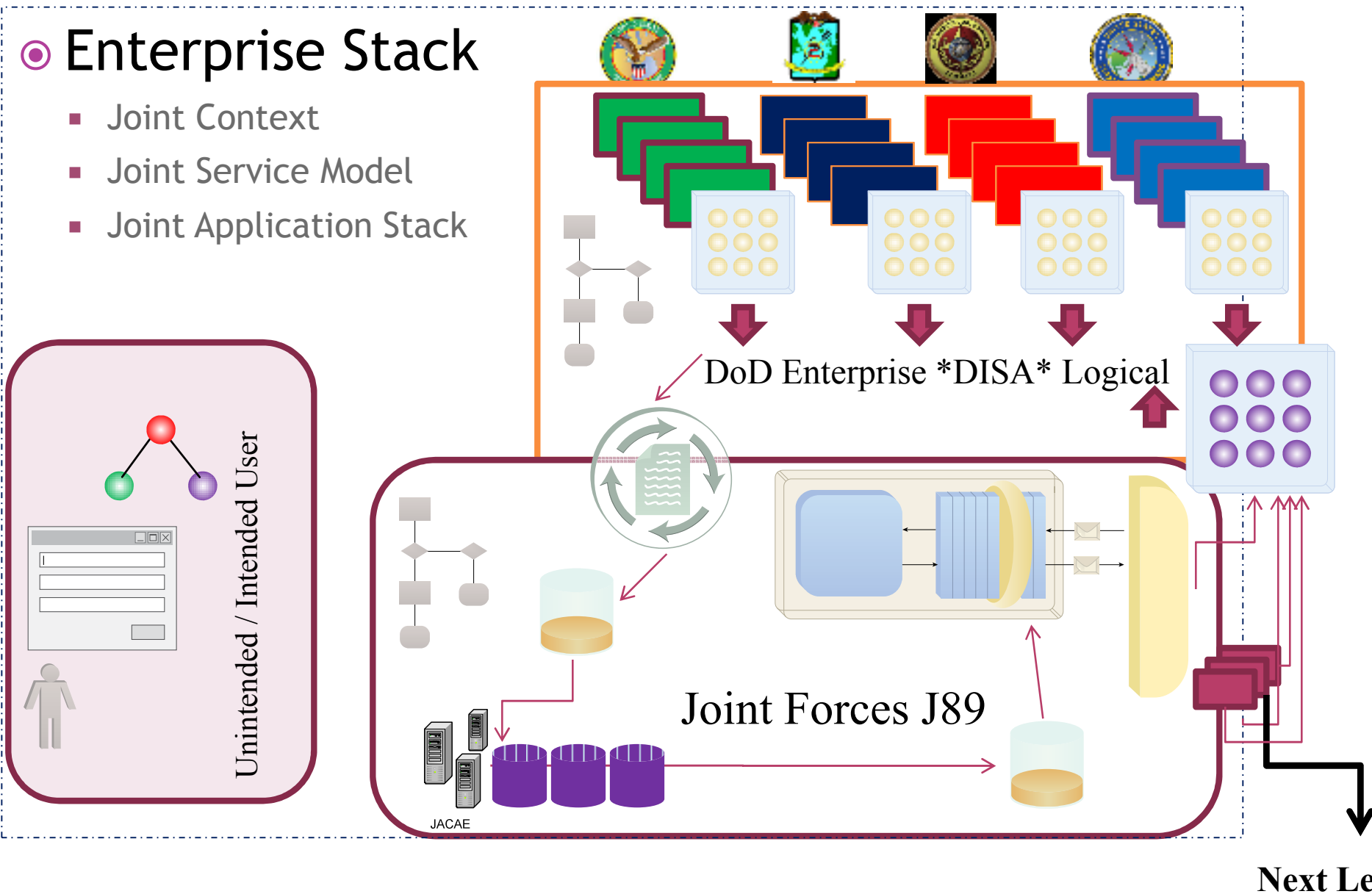




# JAFE SERVICE MODEL

## Enterprise Stack

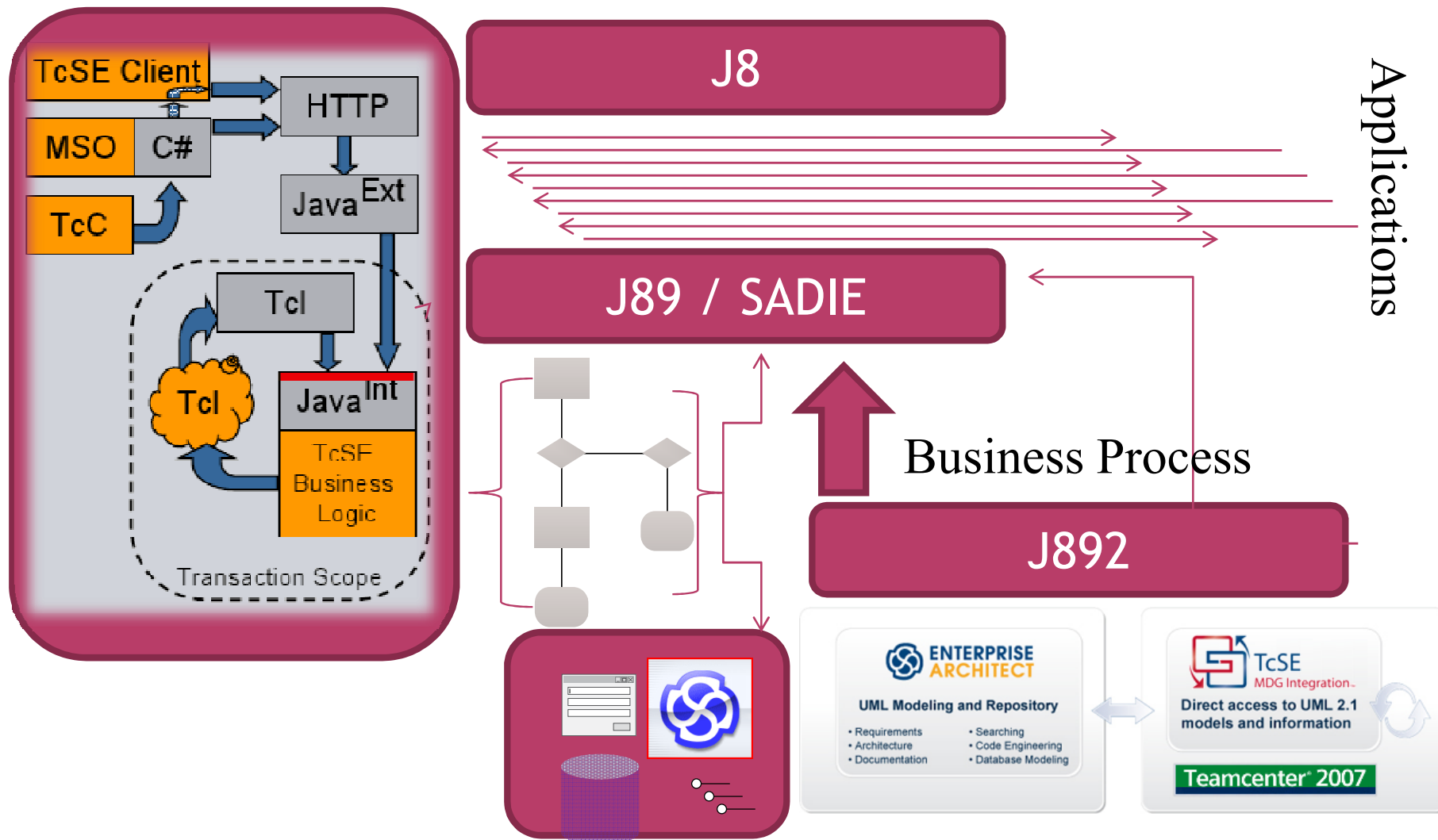
- Joint Context
- Joint Service Model
- Joint Application Stack



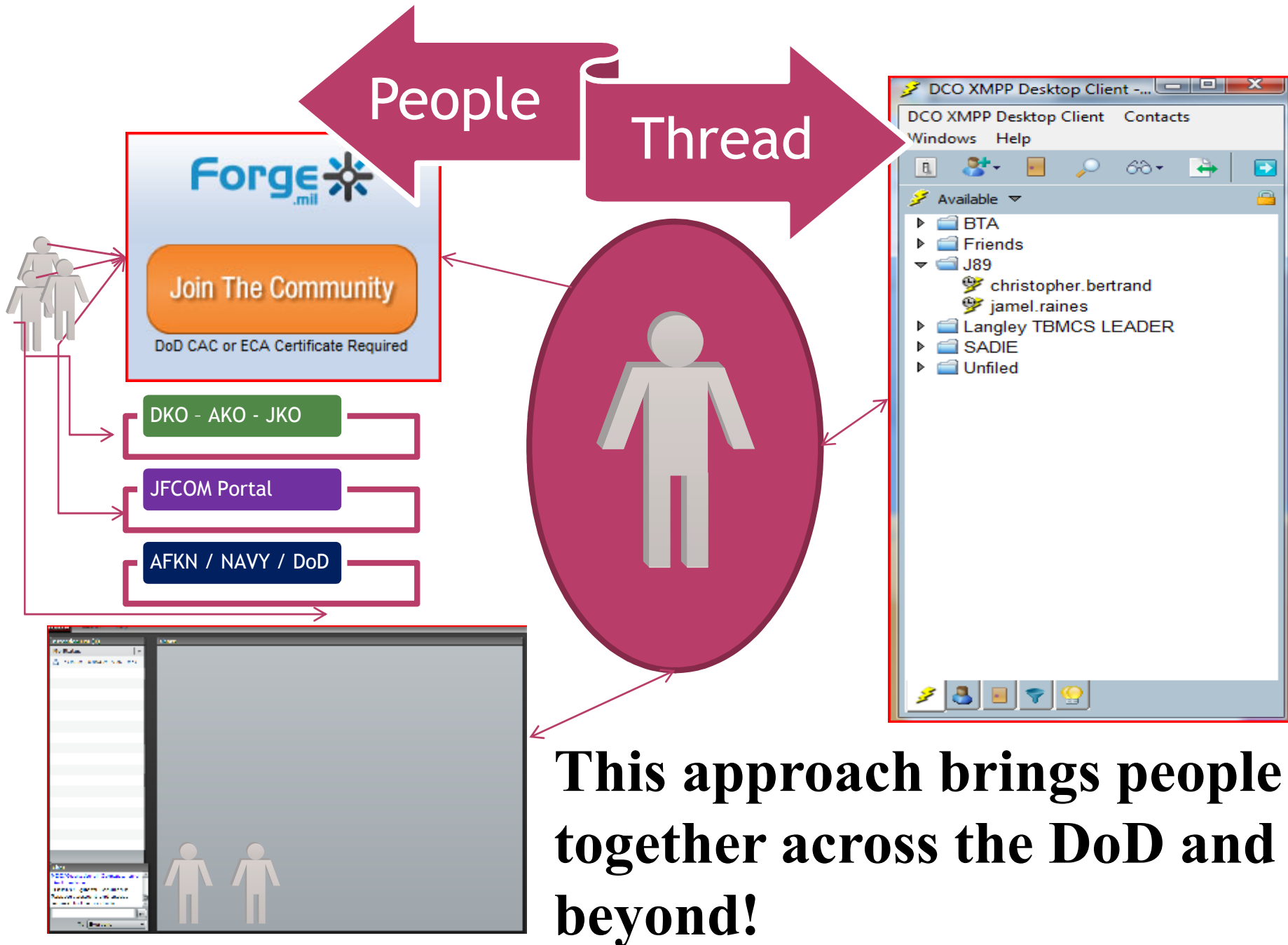


# JAFE SERVICE MODEL

## Joint Forces J89 Stack

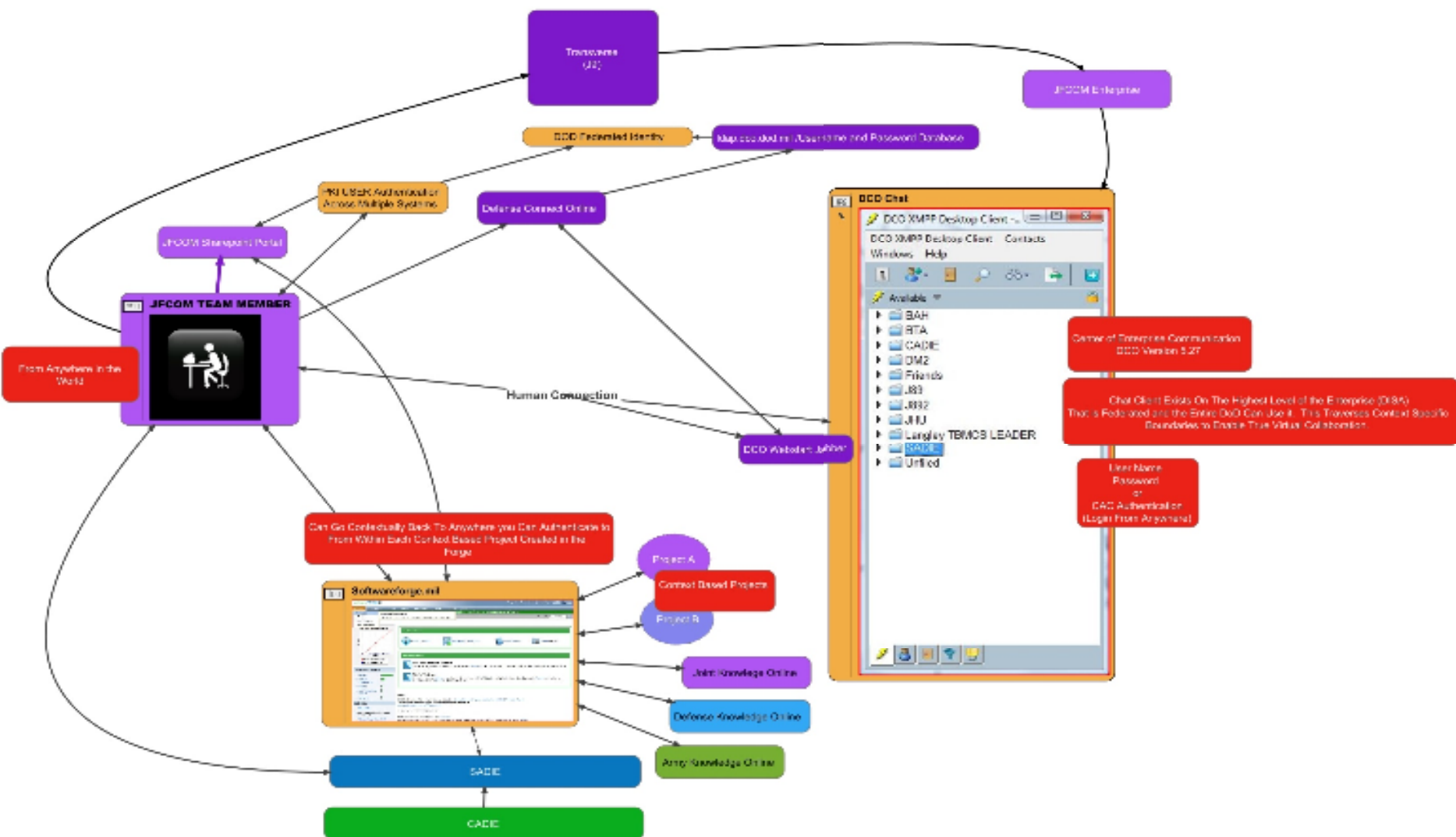


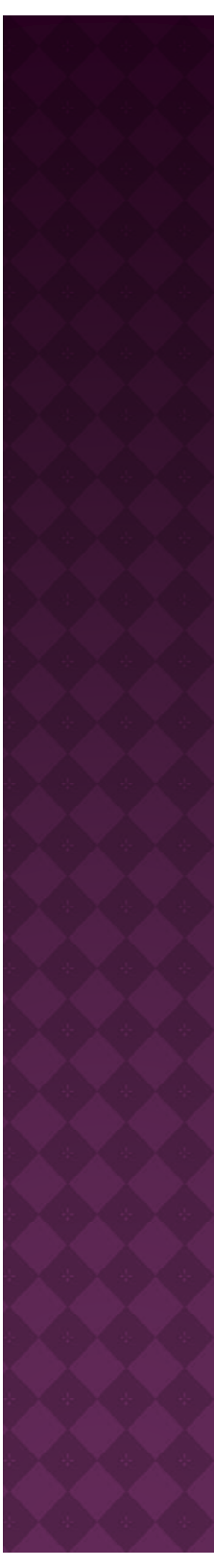
# VIRTUAL TEAMING



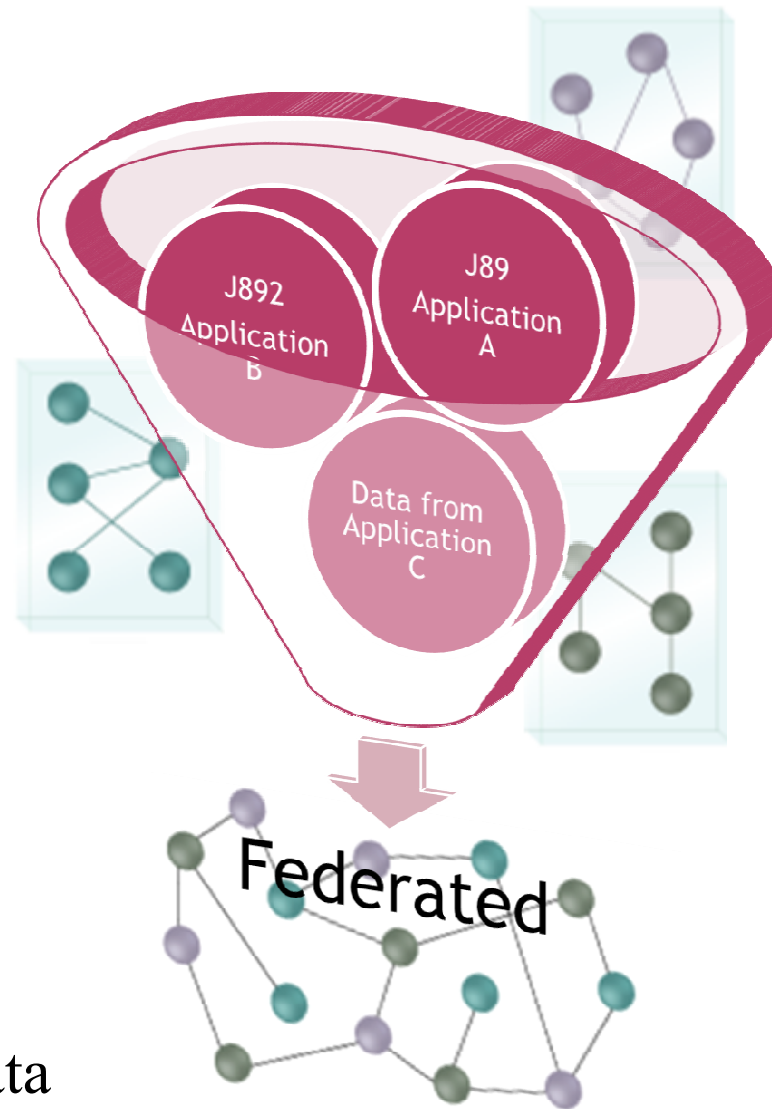
# COLLABORATION MODEL

J89 Model for Virtual Collaboration





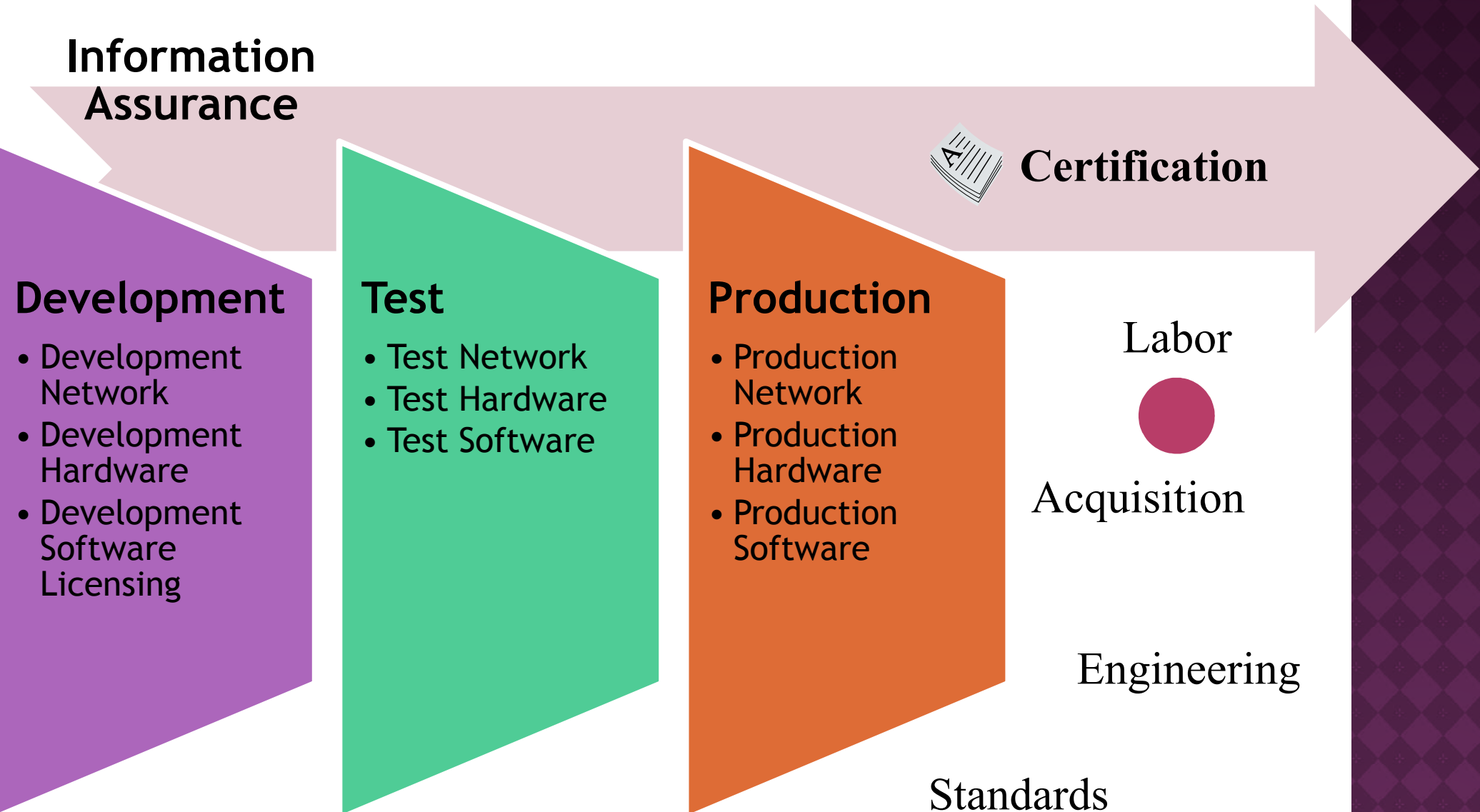
# THREE PART INTEGRATION



Use Case:

The normalization of data  
from J89 data providers.

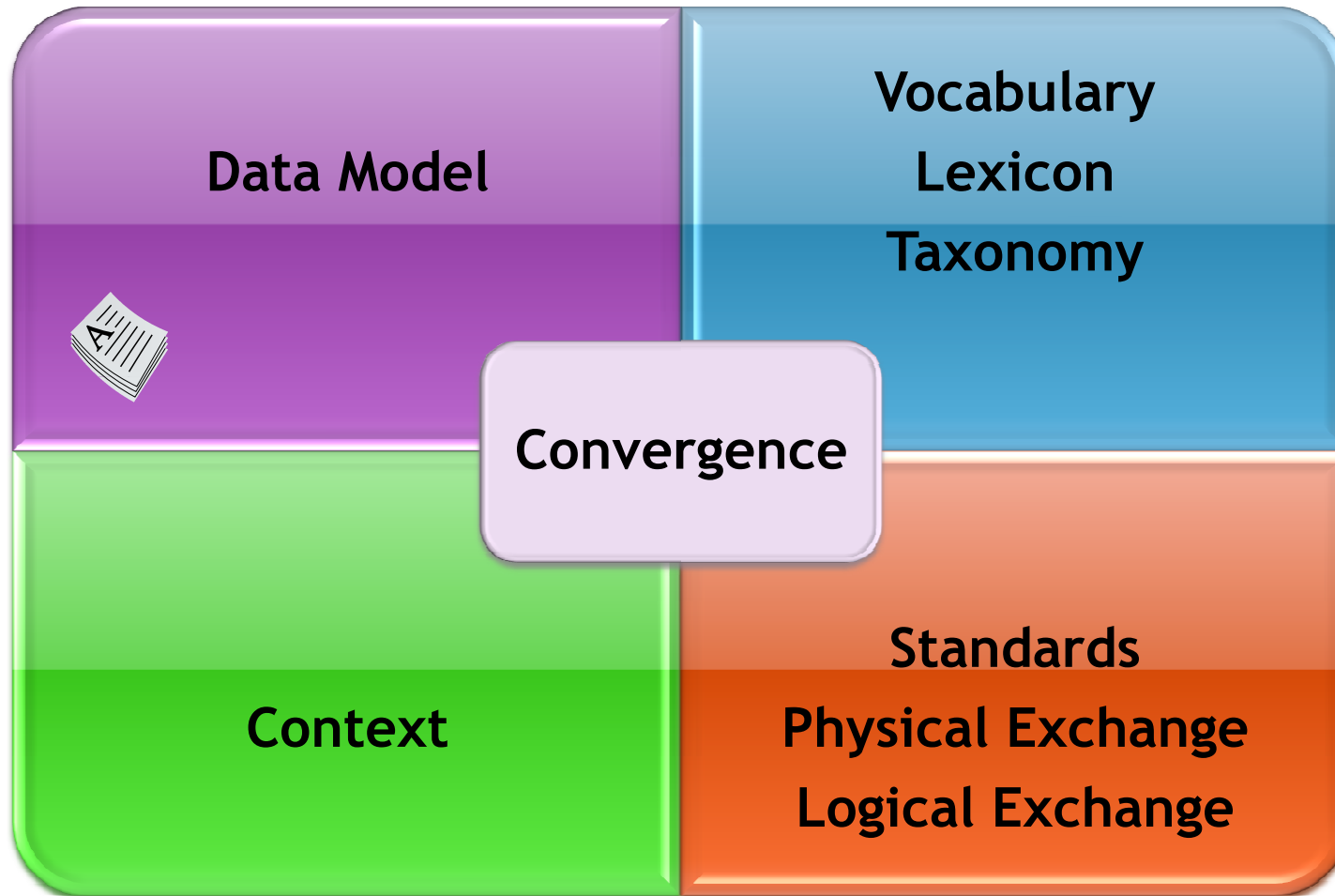
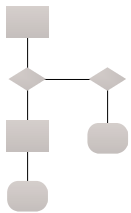
# ENTERPRISE APPLICATION CONSTRUCTION





# INTEGRATION CONSIDERATIONS

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# SUMMARY

- ⦿ This is work in progress and it's real
- ⦿ The project is in the Discovery stage
- ⦿ The Federation focus is on 5-7 Joint Mission Threads the goal is ~JMTs
- ⦿ In depth project brief will be held at the 2010 AFEI DoD EA Conference, May 10-14, San Antonio, Texas ([WWW.AFEI.ORG](http://WWW.AFEI.ORG))



# CONTACT INFORMATION

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